

What is claimed is:

1. An image forming method for forming visual image referred image data by subjecting captured image data, which have been recorded by an image-capturing device, to predetermined image processing of optimization to form an image for viewing on an output medium, comprising:

identifying a type of the image-capturing device;

generating a scene-referred image data by subjecting the image data, obtained by photographing a subject having a reflection density of 0.7, to normalizing processing for each type of the image-capturing device, wherein the normalizing processing ensures that the reflection density on the output medium becomes 0.6 through 0.8;

optimizing conditions of the predetermined image processing using the scene-referred image data to obtain optimized image processing conditions;

storing the optimized image processing conditions for each type of the image-capturing device;

subjecting the image data obtained by applying the optimized image processing conditions to gradation compensation processing, which ensures that the average value of the image data is outputted on an output medium to have

the reflection density of 0.6 through 0.8 and  $\gamma$  values of the leg (shaded portion) and the shoulder (highlighted portion) are smaller than that of the middle portion of the outputted image, and

outputting the image data having been subjected to the gradation compensation processing.

2. The image forming method of claim 1, wherein in the step of optimizing conditions of the predetermined image processing, information on user's preference is further used, as well as the scene-referred image data, to obtain optimized image processing conditions.

3. The image forming method of claim 1, wherein in the step of optimizing conditions of the predetermined image processing, information on the output medium is further used, as well as the scene-referred image data, to obtain optimized image processing conditions.

4. The image forming method of claim 1, wherein in the step of optimizing conditions of the predetermined image processing, information on user's preference and information on the output medium is further used, as well as the scene-

referred image data, to obtain optimized image processing conditions.

5. The image forming method of claim 2, wherein the information on user's preference is the information attached to the captured image data.

6. The image forming method of claim 2, wherein the information on user's preference is the information inputted by a user.

7. The image forming method of claim 2, wherein the information on user's preference is at least one of the pieces of information on setting of image data gradation.

8. The image forming method of claim 3, wherein the information on the output medium is the information attached to the captured image data.

9. The image forming method of claim 3, wherein the information on an output medium is the information inputted by a user.

10. The image forming method of claim 3, wherein the information on the output medium comprises one of the information on the type and the information on the size of the output medium.

11. The image forming method of claim 1, wherein in the step of identifying a type of image-capturing device, the information attached to the captured image data is used.

12. The image forming method of claim 11, wherein the information attached to the captured image data is information indicating a model of the image-capturing device.

13. The image forming method of claim 11, wherein the information attached to the captured image data is tag information indicating image-capturing conditions setting, and the type of the image-capturing device is identified through estimation by using the tag information.

14. The image forming method of claim 1, wherein the predetermined image processing comprises at least one of gradation compensation processing and color compensation processing.

15. An image processing apparatus for forming visual image referred image data by subjecting captured image data, which have been recorded by an image-capturing device, to predetermined image processing of optimization to form an image for viewing on an output medium, comprising:

a type identifying section for identifying a type of the image-capturing device;

a scene-referred image data generating section for generating a scene-referred image data by subjecting the image data, obtained by photographing a subject having a reflection density of 0.7, to normalizing processing for each type of the image-capturing device, wherein the normalizing processing ensures that the reflection density on the output medium becomes 0.6 through 0.8;

a condition optimizing section for optimizing conditions of the predetermined image processing by using the scene-referred image data to obtain optimized image processing conditions;

a storage section for storing the optimized image processing conditions for each type of the image-capturing device;

an image processing section for subjecting the image data obtained by applying the optimized image processing conditions to gradation compensation processing, which ensures that the average value of the image data is outputted on an output medium to have the reflection density of 0.6 through 0.8 and  $\gamma$  values of the leg (shaded portion) and the shoulder (highlighted portion) are smaller than that of the middle portion of the outputted image, and

an output section for outputting the image data having been subjected to the gradation compensation processing.

16. The image processing apparatus of claim 15, wherein the condition optimizing section optimizes the conditions of the predetermined image processing by further using information on user's preference, as well as the scene-referred image data.

17. The image processing apparatus of claim 15, wherein the condition optimizing section optimizes the conditions of the predetermined image processing by further using information on the output medium, as well as the scene-referred image data.

18. The image processing apparatus of claim 15, wherein the condition optimizing section optimizes the conditions of the predetermined image processing by further using information on user's preference and information on the output medium, as well as the scene-referred image data.

19. The image processing apparatus of claim 16, wherein the information on the output medium is the information attached to the captured image data.

20. The image processing apparatus of claim 16, further comprising a first information acquiring section for acquiring information on user's preference, wherein the information on user's preference is the information entered by a user using the first information acquiring section.

21. The image processing apparatus of claim 16, wherein the information on user's preference is at least one of the pieces of information on setting of image data gradation.

22. The image processing apparatus of claim 17, wherein the information on the output medium is the information attached to the captured image data.

23. The image processing apparatus of claim 15, further comprising a second information acquiring section for acquiring information on the output medium, wherein the information on the output medium is the information entered by a user using the second information acquiring section.

24. The image processing apparatus of claim 17, wherein the information on the output medium comprises one of the information on the type and the information on the size of the output medium.

25. The image processing apparatus of claim 15, wherein the type identifying section identifies the type of the image-capturing device by using the information attached to the captured image data.

26. The image processing apparatus of claim 25, wherein the information attached to the captured image data is information indicating a model of the image-capturing device.

27. The image processing apparatus of claim 25, wherein the information attached to the captured image data is tag



information indicating image-capturing conditions setting, and the type identifying section identifies the type of the image-capturing device through estimation by using the tag information.

28. The image processing apparatus of claim 15, wherein the predetermined image processing comprises at least one of gradation compensation processing and color compensation processing.

29. A print forming apparatus for forming a print by using visual image referred image data, which are obtained by subjecting captured image data, recorded by an image-capturing device, to predetermined image processing of optimization to form an image for viewing on an output medium, comprising:

- a type identifying section for identifying a type of the image-capturing device;

- a scene-referred image data generating section for generating a scene-referred image data by subjecting the image data, obtained by photographing a subject having a reflection density of 0.7, to normalizing processing for each type of the image-capturing device, wherein the normalizing

processing ensures that the reflection density on the output medium becomes 0.6 through 0.8;

a condition optimizing section for optimizing conditions of the predetermined image processing by using the scene-referred image data to obtain optimized image processing conditions;

a storage section for storing the optimized image processing conditions for each type of the image-capturing device;

an image processing section for subjecting the image data, obtained by applying the optimized image processing conditions, to gradation compensation processing, which ensures that the average value of the image data is outputted on an output medium to have the reflection density of 0.6 through 0.8 and  $\gamma$  values of the leg (shaded portion) and the shoulder (highlighted portion) are smaller than that of the middle portion of the outputted image, and

a printing section for forming a print by using the image data having been subjected to the gradation compensation processing.

30. The print forming apparatus of claim 29, wherein the condition optimizing section optimizes the conditions of the

predetermined image processing by further using information on user's preference, as well as the scene-referred image data.

31. The print forming apparatus of claim 29, wherein the condition optimizing section optimizes the conditions of the predetermined image processing by further using information on the output medium, as well as the scene-referred image data.

32. The print forming apparatus of claim 29, wherein the condition optimizing section optimizes the conditions of the predetermined image processing by further using information on user's preference and information on the output medium, as well as the scene-referred image data.

33. The print forming apparatus of claim 30, wherein the information on the output medium is the information attached to the captured image data.

34. The print forming apparatus of claim 30, further comprising a first information acquiring section for acquiring information on user's preference, wherein the

information on user's preference is the information entered by a user using the first information acquiring section.

35. The print forming apparatus of claim 30, wherein the information on user's preference is at least one of the pieces of information on setting of image data gradation.

36. The print forming apparatus of claim 31, wherein the information on the output medium is the information attached to the captured image data.

37. The print forming apparatus of claim 31, further comprising a second information acquiring section for acquiring information on the output medium, wherein the information on the output medium is the information entered by a user using the second information acquiring section.

38. The print forming apparatus of claim 31, wherein the information on the output medium comprises one of the information on the type and the information on the size of the output medium.

39. The print forming apparatus of claim 29, wherein the type identifying section identifies the type of the image-capturing device by using the information attached to the captured image data.

40. The image processing apparatus of claim 29, wherein the information attached to the captured image data is information indicating a model of the image-capturing device.

41. The image processing apparatus of claim 29, wherein the information attached to the captured image data is tag information indicating image-capturing conditions setting, and the type identifying section identifies the type of the image-capturing device through estimation by using the tag information.

42. The print forming apparatus of claim 29, wherein the predetermined image processing comprises at least one of gradation compensation processing and color compensation processing.

43. A memory medium for storing a computer-readable program code for forming visual image referred image data by

subjecting captured image data, which have been recorded by an image-capturing device, to predetermined image processing of optimization to form an image for viewing on an output medium, the computer-readable program code comprising:

- a type identifying program code for identifying a type of the image-capturing device;

- a scene-referred image data generating program code for generating a scene-referred image data by subjecting the image data, obtained by photographing a subject having a reflection density of 0.7, to normalizing processing for each type of the image-capturing device, wherein the normalizing processing ensures that the reflection density on the output medium becomes 0.6 through 0.8;

- a condition optimizing program code for optimizing conditions of the predetermined image processing by using the scene-referred image data to obtain optimized image processing conditions;

- a storage program code for storing the optimized image processing conditions for each type of the image-capturing device;

- an image processing program code for subjecting the image data obtained by applying the optimized image processing conditions to gradation compensation processing,

which ensures that the average value of the image data is outputted on an output medium to have the reflection density of 0.6 through 0.8 and  $\gamma$  values of the leg (shaded portion) and the shoulder (highlighted portion) are smaller than that of the middle portion of the outputted image, and

an output program code for outputting the image data having been subjected to the gradation compensation processing.

44. The memory medium of claim 43, wherein the condition optimizing program code is a code for optimizing the conditions of the predetermined image processing by further using information on user's preference, as well as the scene-referred image data.

45. The memory medium of claim 43, wherein the condition optimizing program code is a code for optimizing the conditions of the predetermined image processing by further using information on the output medium, as well as the scene-referred image data.

46. The memory medium of claim 43, wherein the condition optimizing program code is a code for optimizing the

conditions of the predetermined image processing by further using information on user's preference and information on the output medium, as well as the scene-referred image data.